H. J. ALBERS.

MINER'S BIT.

APPLICATION FILED APR. 29, 1918. RENEWED JAN. 3, 1921.

1,371,137. Patented Mar. 8, 1921.

Fig. 1.

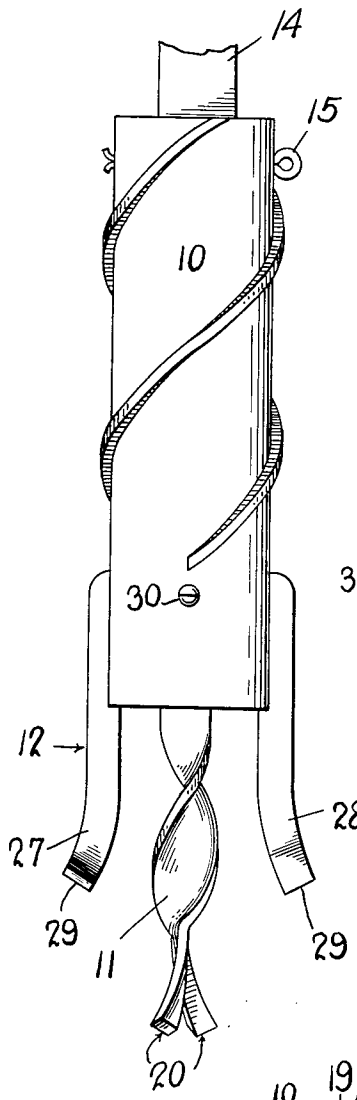


Fig. 2.

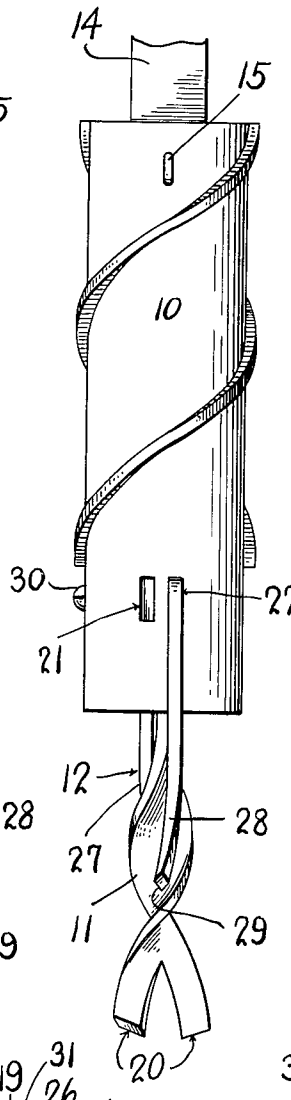


Fig. 3.

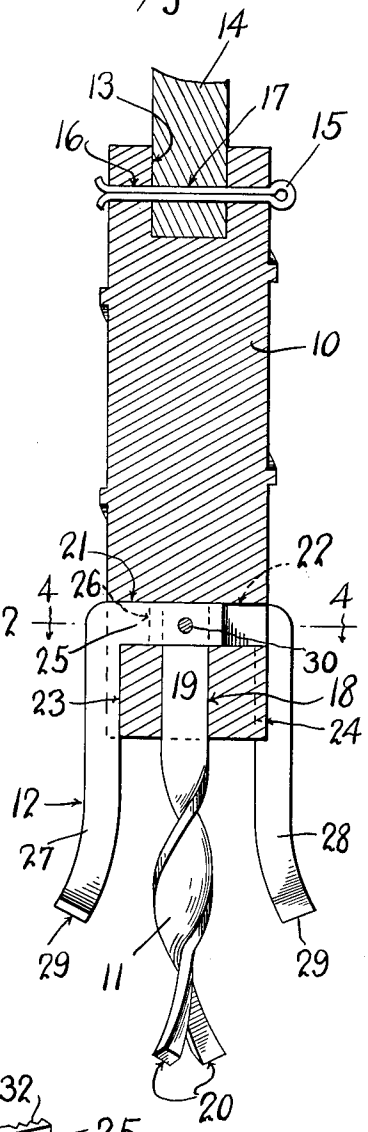


Fig. 4.

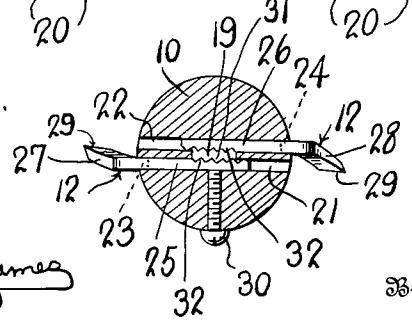
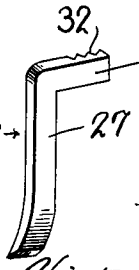


Fig. 5.



Witness

L. B. James

Inventor

H. J. Albers

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

HENRY J. ALBERS, OF BREESE, ILLINOIS.

MINER'S BIT.

1,371,137. Specification of Letters Patent. Patented Mar. 8, 1921.

Application filed April 29, 1918, Serial No. 231,493. Renewed January 3, 1921. Serial No. 434,787.

To all whom it may concern:

Be it known that I, HENRY J. ALBERS, a citizen of the United States, residing at Breese, in the county of Clinton and State of Illinois, have invented new and useful Improvements in Miners' Bits, of which the following is a specification.

This invention relates to drills and aims to provide a drill especially adapted for use in mining coal or other minerals.

An object of the present invention is to provide a drill having a detachable auger and removable and adjustable reamers, the latter being capable of lateral adjustment, whereby the diameter of the hole may be regulated, their removal permitting of their being conveniently sharpened and the substitution of new reamers and augers when necessary.

A further object of the invention is to provide a tool of this character in which the work of drilling may be performed with the minimum amount of time and labor, thereby greatly reducing the cost of the operation.

Other objects and advantages of the invention will appear from the following description when read in connection with the accompanying drawings, in which:—

Figure 1 is an elevation of a drill embodying the present invention;

Fig. 2 is a similar view taken at right angles to Fig. 1;

Fig. 3 is a vertical sectional view taken on a line with the reamers;

Fig. 4 is a horizontal sectional view taken on the line 4—4 of the lower portion of the stem showing the auger point and reamers therein, the section being at right angles to that shown in Fig. 3;

Fig. 5 is a detail perspective view of one of the reamers.

In the embodiment of the invention illustrated in the accompanying drawings, there is shown a drill bit which includes a spiral stem 10, which is adapted to carry the auger point 11 and the reamers 12, the spiral formation of the stem acting to bring the cuttings to the surface as is usual in tools of this character. One end of the stem is provided with a squared socket 13, which is adapted to receive a shank 14 carried by a drill machine of any suitable or desired character.

The shank 14 is held within the socket 13, through the medium of a cotter pin 15, which is inserted through openings 16 and 17 in the stem and shank respectively.

The opposite end of the stem 10 is provided with a central socket 18 of rectangular formation, which receives the shank 19 of the auger point 11, this point being bifurcated at its extremity and outwardly curved to provide cutting edges 20.

Formed upon diametrically opposite sides of the socket 19 and in communication therewith are socketes 21 and 22, these sockets communicating with grooves 23 and 24 respectively. The sockets 21 and 22 are adapted to receive the laterally extending shanks 25 and 26 of reamers 27 and 28, which are also outwardly turned and formed with cutting edges 29. The clamping screw 30 carried by the stem 10 and engageable with one of the reamers provides for removably clamping the reamers and auger point in position. The shank of the auger point 11 is provided upon opposite faces with serrations 31 which are adapted to engage serrations 32 formed respectively on the inwardly extending arms of the reamers.

This construction provides for the removal of the auger point and reamers when desired and also permits of the lateral adjustment of the reamers for the purpose of regulating the diameter of the bore. When the reamers are adjusted to their innermost position, they lie within the grooves 23 and 24 previously mentioned.

The invention is susceptible of various changes in its form, proportion and minor details of construction and the right is reserved to make such changes as will properly fall within the scope of the appended claims.

Having described the invention what is claimed, is:—

1. A drill bit comprising a spiral shank having a plurality of separate sockets in one end thereof, an auger point removably located in one of said sockets, reamers removably located in the other sockets upon each side of the auger point and contacting with the latter and a single clamping screw providing a frictional engagement between said auger point and reamers for holding them in position.

2. A drill bit comprising a spiral shank having a central longitudinally disposed socket in one end thereof, laterally extend-

ing radially disposed spaced sockets located upon each side of the longitudinally disposed socket and in communication therewith, an auger point removably located in the first mentioned socket, substantially L-shaped reamers removably located in each of the laterally extending sockets on each side of the auger point and contacting with the inner end thereof and a clamping screw binding said reamers and auger point together to hold them in position within the shank.

In testimony whereof I affix my signature.

HENRY J. ALBERS.